Name _____

The Genetic Code

Below is the key to a code. The top line represents the letters that appear in the coded message. The line below it in *italics* represents the corresponding letters needed to decode the message. For example, GSV from the top line would be decoded as *THE* in the bottom line. Think of the top line as DNA and the bottom line as mRNA, decoding the message.

A	B	C	D	E	F	G	H	I	J	K	L	M
Z	*Y*	*X*	*W*	*V*	*U*	*T*	*S*	*R*	*Q*	*P*	*O*	*N*

N	O	P	Q	R	S	T	U	V	W	X	Y	Z
M	*L*	*K*	*J*	*I*	*H*	*G*	*F*	*E*	*D*	*C*	*B*	*A*

*Use the key to decode the following message.

NIMZ WVXLWVH, LI GIZMHXIRYVH, Z NVHHZTV UILN WMZ. GSVM, GSZG NVHHZTV RH FHVW GL NZPV KILGVRMH. KILGVRMH ZIV EVIB RNKLIGZMG.

Answer:

You are not done yet! In order to make a protein, the decoding process must continue. Now that DNA has been transcribed into mRNA, that mRNA is then translated (with the help of tRNA) into an amino acid sequence. This time, however, the letters are not read individually. Instead, a group of 3 letters, called a codon, is translated. Below is a key to finish the decoding process. The group of 3 letters is similar to a codon. They must still be translated.

ZYX=A WVU=C TSR=D QPO=I
NML=M KJI=N HGF=O EDC=S

*Use the key above to translate the following words. Remember, you have to read the letters in groups of three to decode the message.

ZYXNMLQPOKJIHGF ZYXWVUQPOTSREDC

Answer:

*On the back of this paper, create your own secret message using a code and a key that can be used to solve it.